



**PMMNMTT
Scheme**



*A Six-Day Faculty Development Workshop
on*
**Teaching and Learning
Chemical Spectroscopy
through Hands-On Experience
(TLC SHE)**

11th– 16thSeptember, 2017

Call for Registration and Participation

Coordinators

**Prof. A. Ramachandriah
Dr. D. Kashinath**

**Organized by the
Department of Chemistry
in association with
Teaching-Learning Centre
National Institute of Technology
Warangal – 506 004
Telangana State, India**



Overview of the Workshop:

Many greater and more path-breaking strides have taken place in Chemistry than in any school of knowledge, thanks for its ability as the Central Science to imbibe the revolutions taken place in electronics and computational methods. Many of both natural and man-made (or chemist-made) materials are being used extensively in therapeutics, transportation, construction, housing, agriculture, foods and beverages, cosmetics, house-hold materials, functional and smart materials, etc. among others based on their molecular structure and chemical characteristics. A variety of instrumental methods of qualitative and quantitative chemical analysis are able to unravel the structure-functional relationships towards sustainable applications. Spectroscopic techniques top the list of these analytical tools with their origins in Quantum Mechanics. Principles and Applications of many Atomic and Molecular Spectroscopic methods became major subjects of higher education in Chemistry, Physics, Biology, Materials Science and the corresponding Engineering and Technical Education. The new generation of teachers in chemical sciences and other allied areas look for a thorough grasp on the principles, applications and teaching strategies of some of the modern spectroscopic techniques by way of hands-on experience. This workshop is a unique one in this connection and aims to give an in-depth knowledge on the recent developments in chemical spectroscopy with examples on the characterization of materials to the participants. The workshop is also aimed at imparting the pedagogical approach and skills in teaching chemical spectroscopy effectively and lucidly.

Objectives of the Workshop:

- To enable the participants to learn basic principles and current developments of atomic and molecular spectroscopy
- To enable the participants to understand the functioning of some of the instruments along with sampling methods
- To provide hands-on experience to the participants on characterization of organic molecules and materials using spectroscopic instruments and spectral assignments
- To empower the participants style of teaching spectroscopy in a simple manner at UG and PG levels

Topics in the Workshop:

- Principles, Hands-On Experiments and Interpretation of*
- UV-Visible Spectroscopy and Fluorescence Spectroscopy
 - FT IR and Raman Spectroscopy
 - NMR spectroscopy and COSY
 - Electron Spin Resonance Spectroscopy
 - Mass Spectrometry and Hyphenated Mass Spectrometry
 - XPS, ICP-OES
 - Circular Dichroism and ORD Spectroscopy
 - Mossbauer spectroscopy
 - General and Topic-Targeted Teaching and Learning Strategies

Resource Persons:

Scientists and Faculty from reputed R&D laboratories and Universities who are well recognized in their field of research and teaching. Also, faculty from NIT Warangal and Academic Staff of TLC will deliver lectures and demonstrate some experiments in the laboratory. The list of likely external resource persons is given below

1. Dr. M. Vairamani (SRMU, Retd. Chief Scientist, CSIR-IICT, Hyderabad)
2. Prof. INN Nambuthiri (IIT Bombay)
3. Prof. M V Rajasekharan, UoH)
4. Prof. M. Vittal (OU)
5. Prof. A. Ramachandriah, Coordinator, TLC
6. Prof. K. Laxma Reddy
7. Prof. BV Appa Rao, Research Fellow (Emeritus), TLC
8. Prof. I. Ajit Kumar Reddy, Research Fellow (Emeritus), TLC
9. Prof. V. Rajeswar Rao
10. Dr. D. Kashinath, Department of Chemistry, NITW

Registration is open to:

- Science Faculty working in Universities, Degree and PG Colleges and Technical Education Institutes
- Chemical Engg., Materials and Metallurgical Engg., Biotechnology, Civil Engg, etc, Faculty working in Technical Education Institutes
- Research Scholars and Post-Graduate Students Aspiring for Faculty Positions and R&D Scientists
- Analysts, Quality Control and R&D Scientists of R&D Laboratories and Industries

How to Apply:

Eligible candidates may apply by submitting the scanned copy of the filled-in Registration Form (attached with this mail/ brochure) along with **scanned copy of the DD / Proof of remittance of the requisite registration fee** (with transaction number if online transaction) by Email to: mtlc.nitw@nitw.ac.in on or before **5th Sep 2017**

Accommodation:

Accommodation for outstation participants will be provided on request in the Institute Hostels.



Registration Fee:

Category of Participants	Local Participants	Residential Participants (with Accommodation, and Boarding)
Faculty	Rs. 750/-	Rs. 1500/-
Students and Research Scholars	Rs. 400/-	Rs. 800/-

(Working Lunch will be provided for all participants on all the days of the Workshop)

Note: Registration fee for Faculty and Students of SC/ST category is half of the amounts mentioned above as applicable.

Registration fee may be sent in the form of a DD or remitted through On-line / NEFT to the Bank Account given below. For payment through On-line / NEFT, kindly mention "TLCSHE" in the purpose/remarks column.

Local participants may also pay the registration fee in cash to the Coordinator in the Teaching Learning Centre or Department of Chemistry.

Account Name	DIRECTOR,NIT WARANGAL
Account Number	52109375198
Bank	State Bank of India (SBI)
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC code	SBHY0020149

Brief Profile of the Department of Chemistry

The Department of Chemistry is one of the most active Departments in NIT Warangal with the faculty strength of 18. It offers Engineering Chemistry courses to all B.Tech. programmes and offers a two-year M.Sc. Chemistry Programme with specializations in Organic Chemistry and Analytical Chemistry. It holds the record of producing the largest number of PhDs in the Institute so far. It has a fair number of sophisticated analytical instruments to cater to the needs of research in all areas of chemistry. The Department runs many sponsored research projects and operates the DST FIST programme. The faculty of the Department publish original research publications in leading international and national journals of very high impact factor. Scores of National and International seminars, conferences and workshops are periodically organized by the Department including GIAN and TLC Workshops.

About NIT Warangal

The National Institute of Technology Warangal, formerly known as Regional Engineering College was established in 1959 with foundation Stone laid by Pandit Jawaharlal Nehru. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 31 post-graduate programmes besides doctoral programmes. About 5000 students across the country and about 500 international students study on the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure in the form of state of the art Central Library, Computer Centre, Innovation Centre, Auditorium and Seminar Halls, Central Instruments Facility, etc among others. It mentors the NIT AP at Tadepalligudem.

Teaching-Learning Centre of NIT Warangal:

The Teaching-Learning Centre (TLC) is established at NIT Warangal with grants from the MHRD, under the scheme, 'Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching' (PMMNMTT). Many senior and young faculty members across various departments of the Institute are associated with this Center as the Core-Team. One of the important objectives of the center is to conduct training programs for aspiring, newly inducted and in-service faculty in Science, Engineering and Social Sciences disciplines in higher education. Other activities of the TLC include preparation of print and e-learning materials, offering courses on-line, curriculum development, carrying out research in educational technology and pedagogy and integrating with E&ICT into teaching-learning process. A permanent multi-floor establishment with Training Halls, Studio, MOODLE and MOOCs, etc. facilities is under construction. The TLC has special programmes of training for the marginalized and women-faculty.

Confirmation of Participation:

On receipt of the filled-in Registration Form along with proof of payment of Registration Fee, the participants will be sent confirmation of their participation through Email. As the programme is conducted in a workshop mode with hands-on sessions, the number of participants in the workshop is limited to 40 only on first-come-first-served mode. *Candidates are advised to register early to avoid disappointment.*

For Any Queries Regarding This Workshop, Please Contact The Coordinators.

Dr. D. Kashinath, Coordinator
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Telangana State
e-mail: kashinath@nitw.ac.in or/and
kashinath.dhurke@gmail.com
Ph. No. 8332969502

or

Prof. A. Ramachandraiah, Coordinator, TLC
NIT Warangal, 506 004, Telangana State
e-mail: mtlc.nitw@nitw.ac.in or/and
mtlc.nitw@gmail.com
Ph. No. 8332969504 and 0870-2464084

About Warangal:

Warangal is the second largest city of the new state of Telangana. It is situated at a distance of 140 km from the state capital Hyderabad (Nearest Airport). It is well connected by Rail (Kazipet Junction is just two km away and Warangal Station is about 12 km away to NIT Warangal) and by Road (NH 202). Warangal is renowned for its rich historical and cultural heritage. It was the seat of erstwhile Kakatiya Dynasty. It is a seat of tourist attractions with a number of historical monuments like Thousand Pillars Temple, Warangal Fort, Bhadrakali Temple, Ramappa Temple and Laknavaram Lake located in a radius of about 30 kms. Warangal City is declared by the Govt. of India as Smart City. Besides NIT Warangal, the city has Kakatiya University and Kaloji University of Health Sciences besides Kakatiya Medical College and many degree and professional colleges of higher learning along with a few autonomous Deemed Universities. The city has excellent hotels, multi-specialty healthcare and shopping complexes.

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REGISTRATION FORM

Name : _____

Date of Birth : _____

Place of Birth: Village/Town/City: _____ Tick as applicable (Rural / Urban)

District _____ State: _____

Gender (Put a \sqrt Mark) : Male Female

Category (Tick as applicable): **Open / OBC / SC / ST / PWD**

Qualification : _____

Designation : _____

Organization : _____

No. of Years of Teaching Experience: _____

Address for Correspondence : _____

Mobile(s): _____

Email(s) _____

Details of Remitting Registration Fee: (i) Amount in Rs. _____

(ii) Name of the Bank Through which Remitted/DD Taken: _____

(iii) On-line Transaction No./ DD No: _____ (iv) Date: _____

Accommodation (Put a \sqrt Mark) : Required Not Required

Declaration by the Applicant

If selected, I agree to abide by the rules and regulations of the workshop/ training programme and shall attend all the sessions.

Date:

Signature of the Applicant

Recommended and Forwarded

Office Seal

Signature of the Head of the Department/ Institution